Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A ~~computer-implemented~~ method performed by a computer system including one or more servers, the method comprising:

receiving data identifying a ~~first~~ knowledge item;

retrieving, from a database, ~~first~~ document-based information to be used in selecting a meaning for the ~~first~~ knowledge item, where ~~the database associates each of a plurality of knowledge items with information related to the knowledge item, and~~ the document-based ~~first~~ information ~~is~~ comprises one or more documents related to the ~~first~~ knowledge item;

determining~~, in a computer system comprising one or more servers,~~ one or more ~~first information~~ document term meanings of the document-based ~~first~~ information, the determining comprising, for each document in the document-based ~~first~~ information~~,~~:

_____selecting one or more meanings for terms in the document from meanings associated with the terms in a computer-readable data collection that ~~includes terms and~~ associates at least one meaning with each of the terms, and then

_____determining one or more ~~first information~~ document term meanings of the document from the one or more meanings for the terms in the document;

determining~~, in the computer system,~~ a plurality of ~~candidate~~ knowledge item term meanings of the ~~first~~ knowledge item by selecting a plurality of meanings from meanings associated with one or more terms of the ~~first~~ knowledge item in the computer-readable data collection;

determining~~, in the computer system,~~ a strength of relationship between each ~~candidate~~ knowledge item term meaning and each ~~first information~~ document term meaning of the ~~first~~ document-based information, and determining a respective selection probability for each ~~candidate~~ knowledge item term meaning from the strengths; ~~and~~

~~selecting and storing~~ designating a ~~first candidate~~ knowledge item term meaning from the

plurality of ~~candidate~~ knowledge item term meanings as a meaning of the ~~first~~ knowledge item according to the respective selection probability associated with each ~~candidate~~ knowledge item term meaning; and

storing the designated meaning of the knowledge item.

2. (Currently Amended) The method of claim 1, wherein the ~~first~~ knowledge item ~~is~~ includes a keyword received as input to a search engine.

3. (Cancelled)

4. (Currently Amended) The method of claim 1, wherein the document-based ~~first~~ information comprises an advertisement from an advertiser who has bid on the ~~first~~ knowledge item.

5. (Currently Amended) The method of claim 4, wherein the document-based ~~first~~ information further comprises a destination web page associated with the advertisement.

6. (Currently Amended) The method of claim 5, wherein the document-based ~~first~~ information further comprises related data.

7. (Original) The method of claim 6, wherein the related data comprises cost per click data associated with the advertisement.

8. (Cancelled)

9. (Currently Amended) The method of claim 1, wherein the plurality of ~~candidate~~ knowledge item term meanings are each represented as an associated concept and wherein selecting the ~~first candidate~~ knowledge item term meaning comprises selecting at least one of the associated concepts.

10. (Currently Amended) The method of claim 1, further comprising:

establishing an initial probability, for each of the plurality of ~~candidate~~ knowledge item term meanings, that the ~~first~~ knowledge item be resolved to the one of the plurality of ~~candidate~~ knowledge item term meanings~~;~~,

wherein the selection probabilities are further based on the initial probabilities.

11. (Currently Amended) The method of claim 1, wherein the ~~first candidate~~ knowledge item term meaning comprises a weighted vector of concepts.

12. (Currently Amended) The method of claim 1, wherein the ~~first candidate~~ knowledge item term meaning comprises a related cluster of words.

13. (Cancelled)

14. (Currently Amended) A computer-readable medium encoded with a computer program, the program comprising instructions to perform operations, the operations comprising:

receiving data identifying a ~~first~~ knowledge item;

retrieving, from a database, document-based ~~first~~ information to be used in selecting a meaning for the ~~first~~ knowledge item, where ~~the database associates each of a plurality of knowledge items with information related to the knowledge items, and~~ the document-based ~~first~~ information ~~is~~ comprises one or more documents related to the knowledge item;

determining one or more ~~first information~~document term meanings of the document-based ~~first~~ information, the determining comprising, for each document in the document-based ~~first~~ information~~;~~:

_____selecting one or more meanings for terms in the document from meanings associated with the terms in a computer-readable data collection that ~~includes terms and~~ associates at least one meaning with each of the terms, and then

_____determining one or more ~~first information~~document term meanings of the document from the one or more meanings for terms in the document;

determining a plurality of ~~candidate~~ knowledge item term meanings of the ~~first~~

knowledge item by selecting a plurality of meanings from meanings associated with one or more terms of the knowledge item in the computer-readable data collection;

determining a strength of relationship between each ~~candidate~~ knowledge item term meaning and each ~~first information~~document term meaning of the document-based ~~first~~ information, and determining a respective selection probability for each ~~candidate~~ knowledge item term meaning from the strengths; and

designating ~~selecting and storing~~ a ~~first candidate~~ knowledge item term meaning from the plurality of ~~candidate~~ knowledge item term meanings as a meaning of the ~~first~~ knowledge item according to the respective selection probability associated with each ~~candidate~~ knowledge item term meaning; and

storing the designated meaning of the knowledge item.

15. (Currently Amended) The computer-readable medium of claim 14, wherein the ~~first~~ knowledge item comprises ~~is~~ a keyword received as input to a search engine.

16. (Cancelled)

17. (Currently Amended) The computer-readable medium of claim 14, wherein the document-based ~~first~~ information comprises an advertisement from an advertiser who has bid on the ~~first~~ knowledge item.

18. (Currently Amended) The computer-readable medium of claim 17, wherein the document-based ~~first~~ information further comprises a destination web page associated with the advertisement.

19. (Currently Amended) The computer-readable medium of claim 18, wherein the document-based ~~first~~ information further comprises related data.

20. (Original) The computer-readable medium of claim 19, wherein the related data comprises cost per click data associated with the advertisement.

21. (Cancelled)

22. (Currently Amended) The computer-readable medium of claim 14, wherein the plurality of ~~candidate~~ knowledge item term meanings are each represented as an associated concept and wherein selecting the ~~first candidate~~ knowledge item term meaning comprises selecting at least one of the associated concepts.

23. (Currently Amended) The computer-readable medium of claim 14, further operable to cause processors to perform operations comprising:

establishing an initial probability, for each of the plurality of ~~candidate~~ knowledge item term meanings, that the ~~first~~ knowledge item be resolved to the one of the plurality of ~~candidate~~ knowledge item term meanings~~;~~,

wherein the selection probabilities are further based on the initial probabilities.

24. (Currently Amended) The computer-readable medium of claim 14, wherein the plurality of ~~candidate~~ knowledge item term meanings comprise~~s~~ a weighted vector of concepts.

25. (Currently Amended) The computer-readable medium of claim 14, wherein the plurality of ~~candidate~~ knowledge item meanings comprise~~s~~ related clusters of words.

26. (Cancelled)

27. (Currently Amended) A computer-implemented method for outputting advertisements related to web page content, comprising:

receiving a ~~first~~ keyword;

retrieving, from a database, document-based ~~first~~ information to be used in selecting a meaning for the ~~first~~ keyword~~, where the database associates each of a plurality of keywords with information related to the keyword~~;

determining, in a computer system comprising one or more servers, one or more ~~first information~~document term meanings of the document-based ~~first~~ information, the determining comprising, for one or more documents in the document-based ~~first~~ information~~;~~:

_____selecting one or more meanings for terms in the document from meanings associated with the terms in a computer-readable data collection that ~~includes terms and~~ associates at least one meaning with each term, and then

_____determining one or more ~~first information~~document term meanings of the document from the one or more meanings for terms in the document;

determining, in the computer system, a plurality of candidate keyword meanings of the ~~first~~ keyword by selecting a plurality of meanings from meanings associated with the ~~first~~ keyword in the computer-readable data collection;

determining, in the computer system, a strength of relationship between each candidate keyword meaning and each ~~first information~~document term meaning of the document-based ~~first~~ information, and determining a respective selection probability for each candidate keyword meaning from the strengths;

selecting a ~~first candidate~~ keyword meaning from the plurality of candidate keyword meanings according to the respective selection ~~probabilities~~ probability of each candidate keyword meaning;

matching the ~~first~~ keyword to web page content associated with a web page;

determining a semantic sub-space defined by a radius of semantic distance from the ~~first candidate~~ keyword meaning, identifying an advertisement having an advertisement meaning that falls within the semantic sub-space, and matching the keyword to the advertisement;

associating, in the computer system, the advertisement with the web page content; and

outputting the advertisement when the web page is displayed.

28. (Currently Amended) The method of claim 27, wherein the document-based ~~first~~ information comprises text of advertisements associated with advertisers who have bid on the ~~first~~ keyword.

29. (Currently Amended) The method of claim 28, wherein the document-based ~~first~~ information further comprises destination web pages associated with the advertisements.

30. (Currently Amended) The method of claim 28, wherein the document-based ~~first~~ information further comprises other keywords bid on by the advertisers.

31. (Currently Amended) The method of claim 27, wherein the document-based ~~first~~ information comprises search results associated with the ~~first~~ keyword.

32. (Currently Amended) A system comprising: one or more computers programmed to perform operations comprising:

receiving data identifying a ~~first~~ knowledge item;

retrieving, from a database, document-based ~~first~~ information to be used in selecting a meaning for the ~~first~~ knowledge item, where ~~the database associates each of a plurality of knowledge items with information related to the knowledge item, and~~ the document-based ~~first~~ information comprises ~~is~~ one or more documents related to the ~~first~~ knowledge item;

determining one or more ~~first information~~document term meanings of the document-based ~~first~~ information, the determining comprising, for each document in the document-based ~~first~~ information~~,~~:

_____selecting one or more meanings for terms in the document from meanings associated with the terms in a computer-readable data collection that ~~includes terms and~~ associates at least one meaning with each of the terms, and then

_____determining one or more ~~first information~~document term meanings of the document from the one or more meanings for the terms in the document;

determining a plurality of ~~candidate~~ knowledge item term meanings of the ~~first~~ knowledge item by selecting a plurality of meanings from meanings associated with one or more terms of the ~~first~~ knowledge item in the computer-readable data collection;

determining a strength of relationship between each ~~candidate~~ knowledge item meaning and each ~~first information~~document term meaning of the document-based ~~first~~ information, and determining a respective selection probability for each ~~candidate~~ knowledge item term meaning from the strengths; ~~and~~

designating ~~selecting and storing~~ a ~~first candidate~~ knowledge item term meaning from the

plurality of ~~candidate~~ knowledge item meanings as a meaning of the ~~first~~ knowledge item according to the respective selection probability associated with each ~~candidate~~ knowledge item term meaning; and

storing the designated meaning of the knowledge item.

33. (Currently Amended) The system of claim 32, wherein the ~~first~~ knowledge item comprises ~~is~~ a keyword received as input to a search engine.

34. (Currently Amended) The system of claim 32, wherein the document-based ~~first~~ information comprises an advertisement from an advertiser who has bid on the ~~first~~ knowledge item.

35. (Currently Amended) The system of claim 34, wherein the document-based ~~first~~ information further comprises a destination web page associated with the advertisement.

36. (Currently Amended) The system of claim 35, wherein the document-based ~~first~~ information further comprises related data.

37. (Previously Presented) The system of claim 36, wherein the related data comprises cost per click data associated with the advertisement.

38. (Currently Amended) The system of claim 32, wherein the plurality of ~~candidate~~ knowledge item meanings are represented as an associated concept and wherein selecting the ~~first candidate~~ knowledge item term meaning comprises selecting at least one of the associated concepts.

39. (Currently Amended) The system of claim 32, further programmed to perform operations comprising:

establishing an initial probability, for each of the plurality of ~~candidate~~ knowledge item term meanings, that the ~~first~~ knowledge item be resolved to the one of the plurality of ~~candidate~~ knowledge item term meanings~~;~~,

wherein the selection probabilities are further based on the initial probabilities.

40. (Currently Amended) The system of claim 32, wherein the ~~first candidate~~ knowledge item term meaning is represented as a weighted vector of concepts.

41. (Currently Amended) The system of claim 32, wherein the ~~first candidate~~ knowledge item term meaning is represented as a related cluster of words.

42. (Currently Amended) A computer-readable medium encoded with a computer program, the program comprising instructions to perform operations, the operations comprising:

receiving a ~~first~~ keyword;

retrieving, from a database, document-based ~~first~~ information to be used in selecting a meaning for the ~~first~~ keyword, where the database associates each of a plurality of keywords with information related to the keyword, and the document-based ~~first~~ information is related to the ~~first~~ keyword;

determining one or more ~~first information~~document term meanings of the document-based ~~first~~ information, the determining comprising, for one or more documents in the document-based ~~first~~ information, selecting one or more meanings for terms in the document from meanings associated with the terms in a computer-readable data collection that includes terms and associates at least one meaning with each term, and then determining one or more ~~first information~~document term meanings of the document from the one or more meanings for terms in the document;

determining, in ~~the~~ a computer system, a plurality of candidate keyword meanings of the ~~first~~ keyword by selecting a plurality of meanings from meanings associated with the ~~first~~ keyword in the computer-readable data collection;

determining, in the computer system, a strength of relationship between each candidate keyword meaning and each ~~first information~~document term meaning of the document-based ~~first~~ information, and determining a respective selection probability for each candidate keyword meaning from the strengths;

selecting a ~~first candidate~~ keyword meaning from the plurality of candidate keyword meanings according to the respective selection ~~probabilities~~ probability of each ~~candidate~~ keyword meaning;

matching the ~~first~~ keyword to web page content associated with a web page;

determining a semantic sub-space defined by a radius of semantic distance from the ~~first candidate~~ keyword meaning, identifying an advertisement having an advertisement meaning that falls within the semantic sub-space, and matching the keyword to the advertisement;

associating, in the computer system, the advertisement with the web page content; and

outputting the advertisement when the web page is displayed.

43. (Currently Amended) The computer-readable medium of claim 42, wherein the document-based ~~first~~ information comprises text of advertisements associated with advertisers who have bid on the keyword.

44. (Currently Amended) The computer readable medium of claim 43, wherein the document-based ~~first~~ information comprises destination web pages associated with the advertisements.

45. (Currently Amended) The computer readable medium of claim 43, wherein the document-based ~~first~~ information further comprises other keywords bid on by the advertisers.

46. (Currently Amended) The computer readable medium of claim 42, wherein the document-based ~~first~~ information further comprises search results associated with the keyword.

47. (Currently Amended) A system comprising one or more computers programmed to perform operations comprising:

receiving a ~~first~~ keyword;

retrieving document-based ~~first~~ information to be used in selecting a meaning for the ~~first~~ keyword from a database, where the database associates each of a plurality keywords with information related to the keyword, and the document-based ~~first~~ information is related to the ~~first~~ keyword;

determining one or more ~~first information~~document term meanings of the document-based ~~first~~ information, the determining comprising, for one or more documents in the document-based ~~first~~ information, selecting one or more meanings for terms in the document from meanings associated with the terms in a computer-readable data collection that includes terms and associates at least one meaning with each term, and then determining one or more ~~first information~~document term meanings of the document from the one or more meanings for terms in the document;

determining, in the ~~computer~~ system, a plurality of ~~candidate~~ keyword meanings of the ~~first~~ keyword by selecting a plurality of meanings from meanings associated with the ~~first~~ keyword in the computer-readable data collection;

determining, in the ~~computer~~ system, a strength of relationship between each candidate keyword meaning and each ~~first information~~document term meaning of the document-based ~~first~~ information, and determining a respective selection probability for each candidate keyword meaning from the strengths;

selecting a ~~first candidate~~ keyword meaning from the plurality of candidate keyword meanings according to the respective selection ~~probabilities~~ probability of each candidate keyword meaning;

matching the ~~first~~ keyword to web page content associated with a web page;

determining a semantic sub-space defined by a radius of semantic distance from the ~~first candidate~~ keyword meaning, identifying an advertisement having an advertisement meaning that falls within the semantic sub-space, and matching the keyword to the advertisement;

associating, in the ~~computer~~ system, the advertisement with the web page content; and

outputting the advertisement when the web page is displayed.

48. (Currently Amended) The system of claim 47, wherein the document-based ~~first~~ information comprises text of advertisements associated with advertisers who have bid on the ~~first~~ keyword.

49. (Currently Amended) The system of claim 48, wherein the document-based ~~first~~ information further comprises destination web pages associated with the advertisements.

50. (Currently Amended) The system of claim 48, wherein the document-based ~~first~~ information further comprises other keywords bid on by the advertisers.

51. (Currently Amended) The system of claim 47, wherein the document-based ~~first~~ information comprises search results associated with the keyword.

52. (Currently Amended) The method of claim 1, wherein determining one or more ~~first information~~document term meanings further includes:

determining a meaning for each document in the document-based ~~first~~ information using the computer-readable data collection;

receiving related data for the document-based ~~first~~ information;

calculating a weight for each document in the document-based ~~first~~ information from the related data; and

determining the one or more ~~first information~~document term meanings by combining the determined meanings for each document in the document-based ~~first~~ information, where the determined meaning for each document is weighted by the calculated weight for the document.

53. (Currently Amended) The method of claim 1, further comprising:

determining a semantic sub-space defined by a radius of semantic distance from the ~~first candidate~~ knowledge item meaning;

identifying an advertisement having an advertisement meaning that falls within the semantic sub-space; and

presenting the advertisement.

54. (Currently Amended) The computer-readable medium of claim 14, further operable to cause processors to perform operations comprising:

determining a meaning for each document in the document-based ~~first~~ information using the computer-readable data collection;

receiving related data for the document-based ~~first~~ information;

calculating a weight for each document in the document-based ~~first~~ information from the related data; and

determining the one or more ~~first information~~document term meanings by combining the determined meanings for each document in the document-based ~~first~~ information, where the determined meaning for each document is weighted by the calculated weight for the document.

55. (Currently Amended) The computer-readable medium of claim 14, further operable to cause processors to perform operations comprising:

determining a semantic sub-space defined by a radius of semantic distance from the ~~first candidate~~ knowledge item meaning;

identifying an advertisement having an advertisement meaning that falls within the semantic sub-space; and

presenting the advertisement.

56. (Currently Amended) The system of claim 32, further programmed to perform operations comprising:

determining a meaning for each document in the document-based ~~first~~ information using the computer-readable data collection;

receiving related data for the document-based ~~first~~ information;

calculating a weight for each document in the document-based ~~first~~ information from the related data; and

determining the one or more ~~first information~~document term meanings by combining the determined meanings for each document in the document-based ~~first~~ information, where the determined meaning for each document is weighted by the calculated weight for the document.

57. (Currently Amended) The system of claim 32, further programmed to perform operations comprising:

determining a semantic sub-space defined by a radius of semantic distance from the ~~first candidate~~ knowledge item meaning;

identifying an advertisement having an advertisement meaning that falls within the semantic sub-space; and

presenting the advertisement.

58. (New) A method executed by one or more computing devices, the method comprising:

receiving a keyword, the keyword including one or more terms;

retrieving one or more documents, the one or more documents being associated with the keyword through acts of bidding;

obtaining one or more document term meanings, wherein each of the document term meanings is a meaning determined from one or more meanings of one or more terms in one of the one or more documents;

obtaining a plurality of candidate keyword meanings, each of the candidate keyword meanings comprising one or more previously-stored meanings of one or more terms of the keyword;

determining a strength of relationship between each candidate keyword meaning and each document term meaning; and

designating at least one of the candidate keyword meanings as a meaning of the keyword according to the strengths of relationships.

59. (New) A system comprising: one or more computers programmed to perform operations comprising:

receiving a keyword, the keyword including one or more terms;

retrieving one or more documents, the one or more documents being associated with the keyword through acts of bidding;

obtaining one or more document term meanings, wherein each of the document term meanings is a meaning determined from one or more meanings of one or more terms in one of the one or more documents;

obtaining a plurality of candidate keyword meanings, each of the candidate keyword meanings comprising one or more previously-stored meanings of one or more terms of the keyword;

determining a strength of relationship between each candidate keyword meaning and each document term meaning; and

designating at least one of the candidate keyword meanings as a meaning of the keyword according to the strengths of relationships.